

Applicants note that The Office Action acknowledges the claim for priority, and indicates that the Priority Documents submitted on November 24, 1997 were received.

Applicants note that the Office Action indicates that the formal drawings filed on November 24, 1997 have been approved.

Applicants note that the Office Action includes an initialed copy of the PTO Form 1449's which was submitted with the Information Disclosure Statements filed on April 10, 1997 and November 24, 1997, thereby indicating that the references cited therein were considered by the Examiner. However, the Office Action did not include an initialed copy of the PTO Form 1449 which was submitted with the Information Disclosure Statement filed on September 9, 1998. Applicants respectfully request the Examiner to do so.

Applicants attach hereto a Request For Approval of Proposed Drawing Corrections which labels Figure 8 as "Prior Art", as requested by the Examiner.

The Examiner has objected to the drawings, disclosure and title. The noted deficiencies have been corrected herein. The attached Request For Approval of Proposed Drawing Corrections also corrects other minor informalities in the drawings.

The Examiner has rejected claims 1-12 under 35 U.S.C. § 112, second paragraph. This rejection is believed to be overcome by the self-explanatory claim amendments above which address and resolve each of the Examiner's listed criticisms.

Claims 1-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,588,998 (Yamamuro) in view of U.S. Patent No. 4,897,673 (Okabayashi). This rejection is traversed.

Applicants respectfully submit that neither Yamamuro nor Okabayashi teaches or suggests several features of the claimed invention. Yamamuro does not teach or suggest a lower

electrode formed on an elastic sheet, as recited in independent claims 1 and 7. As shown in FIG. 25B of Yamamuro, the conductive layer 72 (the element that the Examiner alleged is the claimed lower electrode) is not formed on the housing 16 (the element that the Examiner alleged is the claimed elastic sheet). Also, Yamamuro does not teach or suggest an upper insulator layer formed on the upper electrodes, as recited in independent claims 1 and 7. As shown in FIG. 25B of Yamamuro, the protective layer 78 (the element that the Examiner alleged is the claimed insulator layer) is not formed on the electrode 82 (the element that the Examiner alleged is the upper electrode). Further, Yamamuro does not teach or suggest a conductor pattern which connects with the upper electrodes through windows formed in the insulator layer, as recited in independent claims 1 and 7. As shown in FIG. 25B of Yamamuro, the conductive layer 76 (the element that the Examiner alleged is the claimed conductor pattern) does not connect with the electrode 82 (the element that the Examiner alleged is the claimed upper electrode) through a window formed in protective layer 78 (the element that the Examiner alleged is the claimed insulator layer).

Okabayashi is relied on for its teaching of an insulating window 9c formed in an insulator layer 11 and fails to make up for the deficiencies of Yamamuro.

Therefore, since Okabayashi and Yamamuro, either alone or in combination, fail to teach or suggest the invention defined by claims 1 and 7, on which claims 2-6 and 8-12 respectively depend, Applicants respectfully submit that the rejection under 35 U.S.C. § 103(a) is improper.

The Examiner asserts that it would have been obvious to include the window 9c of Okabayashi in the ink jet head taught by Yamamuro. Applicants respectfully submit that even assuming, arguendo, that it would have been obvious to form the window 9c of Okabayashi in the protective layer 78 of Yamamuro, this combination would not form the invention defined by

claims 1 and 7 because it is impossible to connect the conductive layer 76 (i.e., the claimed conductor pattern) to the electrode 82 (i.e., the claimed upper electrode) through a window in the protective layer 78 (i.e., the claimed insulator layer). This is due to the fact that the protective layer 78 is formed on the opposite side of the conductive layer 76 as the electrode 82 (see FIG. 25B).

Regarding claim 2, Applicants respectfully submit that neither Okabayashi nor Yamamuro teaches or suggests a conductor pattern formed on a lateral side of the upper electrode between the pressure generating chambers and connected to the upper electrode at more than one location.

Regarding claim 7, Applicants respectfully submit that neither Okabayashi nor Yamamuro teaches or suggests a piezoelectric layer and upper electrodes which are formed entirely inside areas facing the pressure generating chambers. This feature prevents mechanical failure of the piezoelectric layer and the upper electrodes (see page 10, lines 15-23 of the subject specification).

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such action is hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned at the telephone number listed below.

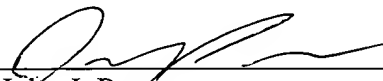
AMENDMENT

U.S. Appln. No. 08/835,748

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

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Date: March 29, 1999

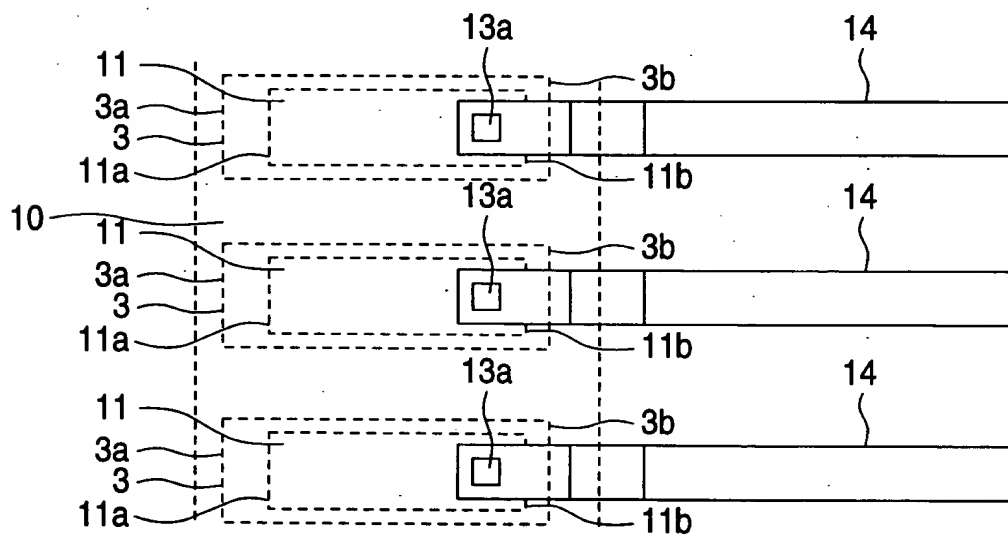
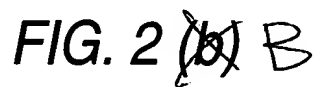


FIG. 3 (a) A

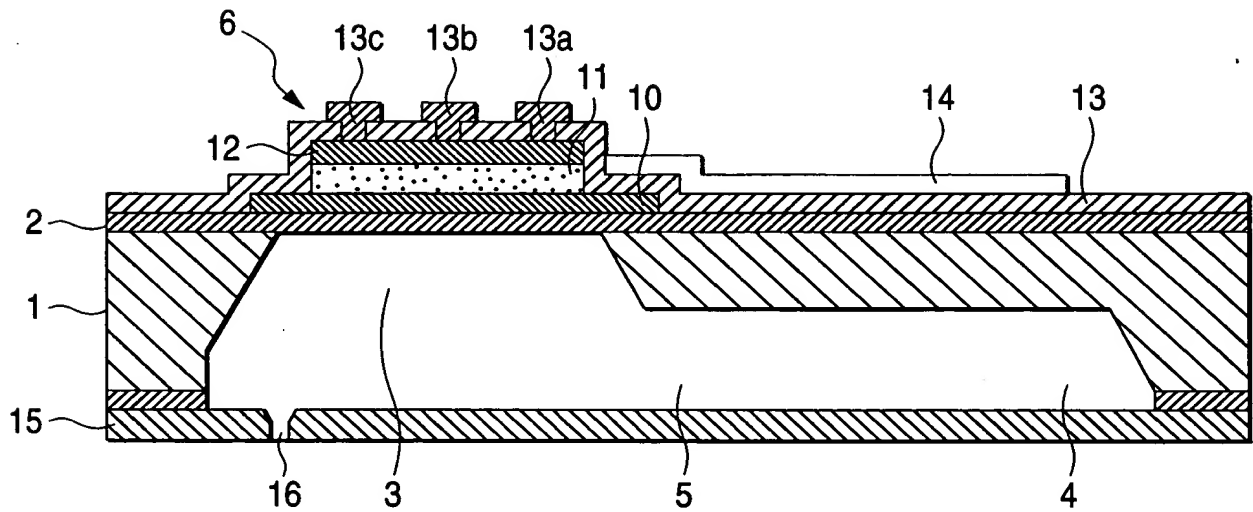


FIG. 3 (b) B

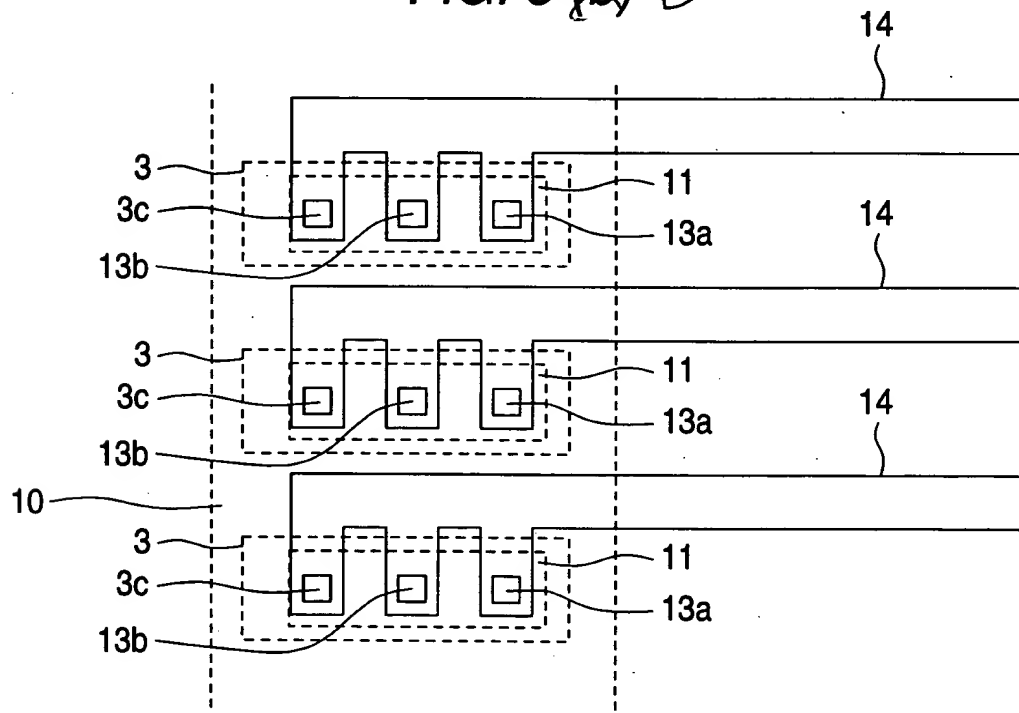


FIG. 4(a) A

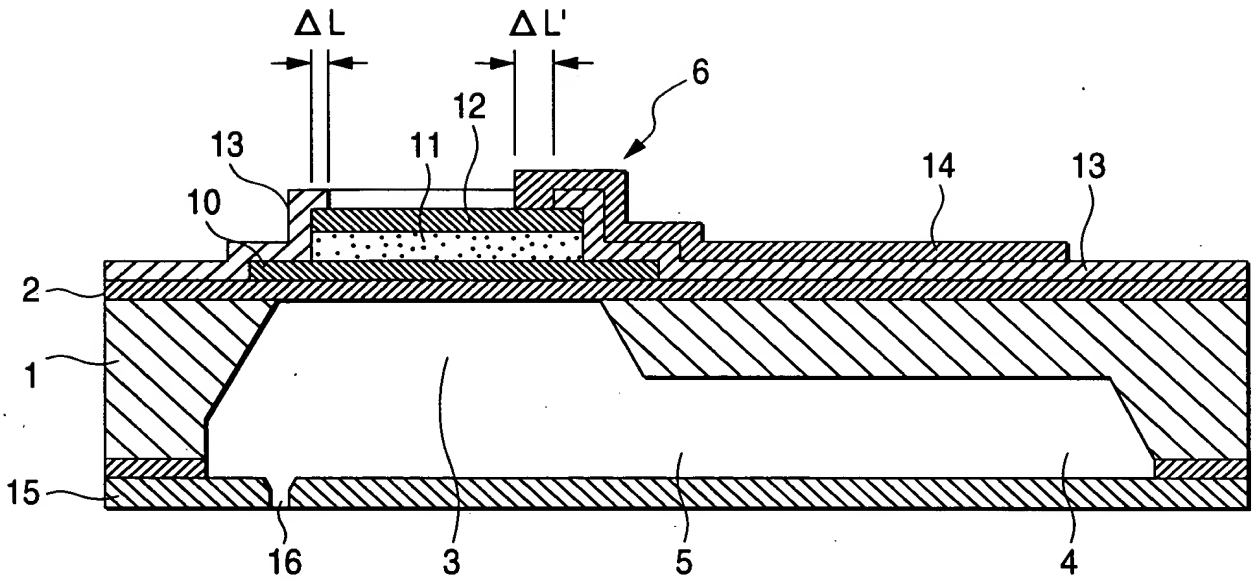


FIG. 4(b) B

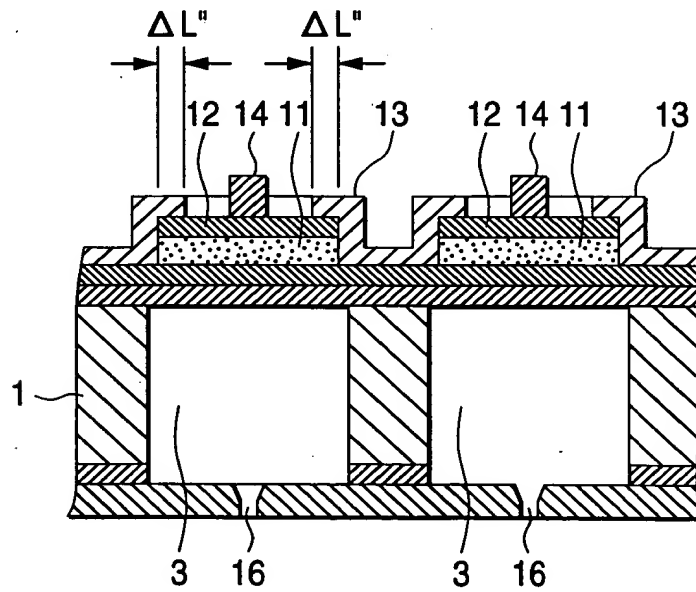
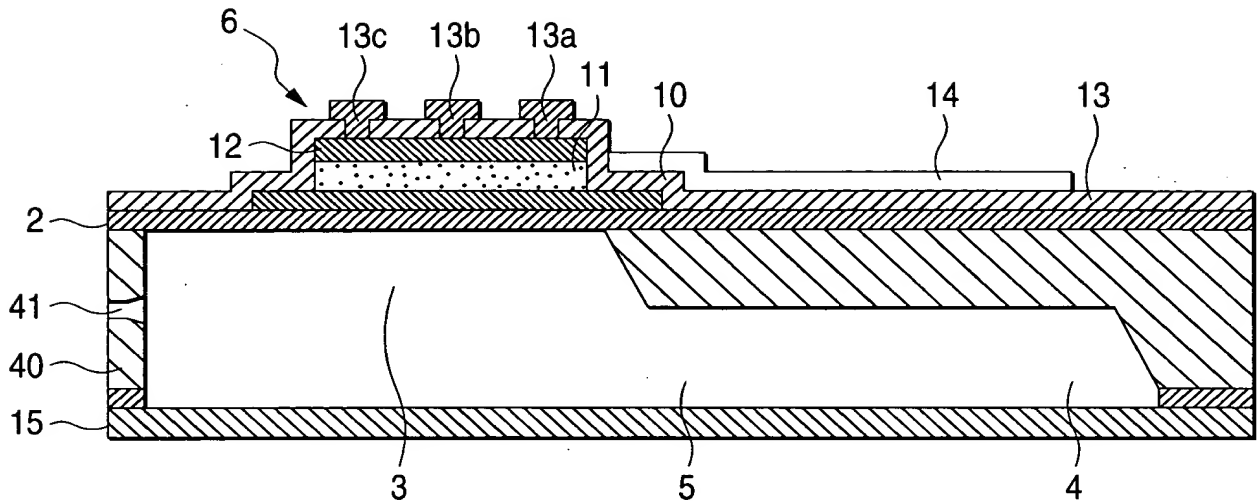


FIG. 7

FIG. 8  
PRIOR ART